

CLAIMS

1. (amended) A thermal processing apparatus that conducts a thermal process to an object to be processed at a temperature of 400°C or more, the thermal processing apparatus comprising:

a processing vessel having a transmitting window in a top part thereof;

a table disposed in the processing vessel, the table supporting thereon the object opposed to the transmitting window;

a plurality of heating lamps disposed on above the processing vessel, the lamps heating the object by irradiating heat rays to the object through the transmitting window; and

a thermoelectric converter disposed on the table and configured to at least cool the object, the thermoelectric converter being made of SiGe.

2. The thermal processing apparatus according to claim 1, wherein

a heat-medium jacket containing a heat-medium flow path is disposed below the thermoelectric converter.

3. The thermal processing apparatus according to claim 1, wherein

the thermoelectric converter is configured to heat the object by applying thereto an electric current in an opposite direction when the object is cooled.

4. The thermal processing apparatus according to claim 1, wherein:

the thermoelectric converter includes a plurality of thermoelectric transducers arranged in their respective zones of the table; and

the thermal processing apparatus further comprises a transducer controller configured to control electric currents to be applied to the thermoelectric transducers for each zone of the table independently.